REMARKS/ARGUMENTS

Claims 1-4, 6, 9 and 11-13 are pending in the application. Claims 1-4, 6, 9 and 11-13 were rejected. Applicants, have not amended any of the claims. Applicants respectfully request reconsideration and allowance of all pending claims.

Rejections Under 35 U.S.C. §102

Claim 1 was rejected under 35 U.S.C. §103(a) as being unpatentable over Walton. Applicants contend that Walton neither teaches nor suggests the invention recited in Claim 1. Furthermore, for the reasons provided below in detail, it would not be reasonable to conclude that one of ordinary skill in the art with knowledge of Walton would come to the invention recited in Claim 1. Accordingly, Applicants traverse the Examiner's rejection of Claim 1 and further contend that Claim is neither obvious nor anticipated by Walton, either taken alone or together with any one or more of the other references cited by the Examiner.

In particular, Walton expresses that the data can be distributed over the OFDM subcarriers randomly in order to exploit frequency diversity that is inherent in OFDM. However, there is nothing in Walton or any of the other references that teaches or suggests that a first redundant bit of data should be distributed randomly over the frequency spectrum (i.e., assigned to subcarriers randomly) with respect to the other redundant bits (i.e., bit that represent the very same bit of information). Furthermore, there is no teaching or suggestion in any of the reference that the problem that is addressed by distributing redundant bits randomly over the frequency should be an issue. Rather, the issue that is addressed by Walton is the fact that bits that are adjacent in the original message should not be modulated onto frequencies that are adjacent because they might encounter the same type of distortion or fading. However, there is no discussion at all in Walton of the effects of a periodic interference that should be addressed. Without an understanding of the fact that there might be a periodic interference, there would be no motivation at all to make a random distribution of the redundant bits, since the redundant bits need to found later and can be more easily located if distributed in a easily discerned pattern.

The Examiner contends without any reference for support that it would obvious to one of ordinary skill in the art to both recognize the problem and the solution. Applicants respectfully contend that it would only be with the use of impermissible hindsight that one could come to the present invention with only the references that the Examiner has cited in hand.

Accordingly, Applicants respectfully traverse the Examiner's rejection of Claim 1 and those claims that depend therefrom. Furthermore, Applicants request reconsideration and allowance of Claim 1 and each of these claims that depend therefrom.

The Examiner has rejected Claims 2-4 and 6 as being unpatentable over Bardi in view of Walton. Applicants respectfully traverse the Examiner's rejection of Claims 2-4 and 6. The Examiner contends that Bardi teaches:

> selecting a symbol to represent the selected data bit (see, generating of a transmission symbol, from an information symbol which then transmitted using a plurality of carriers, col. 3, lines 63 to col. 4, lines 10); redundantly assigning the symbol within a modulator of a transmitter (see, the combination of modulating the first symbol to a carrier and then transmitting the modulated symbol for a first time, col. 4, lines 14-20), to a plurality of carriers (see, mapping diversity where multiple representation of the information symbol on the carriers, col. 19, lines 29-34) comprising the steps of: assigning the selecting a symbol to represent the selected data bit (see, generating of a transmission symbol, from an information symbol which then transmitted using a plurality of carriers, col. 3, lines 63 to col. 4, lines 10); redundantly assigning the symbol within a modulator of a transmitter (see, the combination of modulating the first symbol to a carrier and then transmitting the modulated symbol for a first time, col. 4, lines 14-20), to **a plurality of carriers (see, mapping diversity where multiple representation of the information symbol on the carriers, col. 19, lines 29-34) comprising the steps of: assigning the symbol to a first carrier (see, the first transmission symbol which derived from an information symbol is transmitted via a first carrier, col. 10, lines 34-44); and repeating the steps of selecting data bits and selecting a**

symbol to bits carriers (see, generating of a transmission symbol from an information symbol which then transmitted using a plurality of carriers, col. 3, lines 63 to col. 4, lines 10, see bits of the information symbols, col. 8, lines 56-58, (see, modulating of transmission symbol on first and second carrier at 1st and second time, col. 4, lines 53-65).

However, the Examiner never addresses the limitation of:

wherein the assignment of symbols to carriers **produces a non-uniform repetition pattern** that distributes the data bits across carriers in a **pseudorandom pattern** that **insures non-periodicity** in the location of carriers modulated by the same data bit.

In contrast, Bardi teaches exactly the opposite of this by indicating that the bits are distributed in accordance with a scheme that spaces the bits equally distant apart in a way that ensures **periodicity** rather than **non-periodicity** as is required in the claimed invention of Claim 2 and those claims that depend therefrom. Once again, as noted above with respect to Claim 1, the reason for this failure in the prior art references to disclose a non-periodic distribution of redundant bits is that there was no mention or concern with overcoming periodic interference.

Claims 3 and 4 depend from Claim 2. Accordingly, Applicants traverse the Examiner's rejection of Claims 2-4. Furthermore, Claim 6 has similar limitations and so for the reasons stated above with respect to the Claim 2, Applicants respectfully traverse the Examiner's rejection of Claim 6.

That is, Claim 6 recites:

...redundantly assigning the same portion of the one symbol to at least a second unique plurality of carriers in a repetition pattern that distributes the at least one data bit across carriers **in a pseudorandom pattern**, wherein the frequency separation of the first plurality of carriers and the second plurality of carriers is non-uniformly distributed to insure non-periodicity in the location of carriers modulated by the one data bit over a set of available frequencies upon which the first and second plurality of carriers are transmitted...

The Examiner rejected Claims 11-12 under 35 U.S.C. 103(a) as being unpatentable over Badri in view Walton as applied to Claims 2, 6 above, and further view Tager. Applicants contend that Tager does not teach or suggest the missing element of providing a pseudorandom patter of distribution of redundant symbols over the subcarriers as recited in Claims 2 and 6, respectively. Accordingly, Applicants respectfully traverse the Examiner's rejection of Claims 11 and 12.

The Examiner has also rejected Claim 9 under 35 U.S.C. 103(a) as being unpatentable over Kleider in view of Walton. The Examiner contends that the fact that Kleider teaches a generator similar to that recited in Claim 9 makes it obvious to use the generator with Walton. However, without any acknowledgement of the problem that is addressed by the combination, there would be no reason for anyone of ordinary skill in the art to make such a combination. Therefore, the only reasonable way that one of ordinary skill in the art would make that combination is by use of impermissible hindsight. That is, only by first having seen the invention recited in Claim 9 would one of ordinary skill in the art have reasonable come to the invention recited therein by combining the references cited by the Examiner.

CONCLUSION

Applicants believe that all claims pending in the application are allowable. Applicants therefore respectfully request that a timely Notice of Allowance be issued in this case. This is a response to the Non-Final Office Action mailed on July 20, 2009, and as such, is submitted timely.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 504613. If a fee is required for an extension of time under 37 CFR 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned.

Respectfully submitted,

Dated: October 20, 2009   By: /Bruce W. Greenhaus/
                                                    Bruce W. Greenhaus
                                                    Attorney for Applicants
                                                    Registration No. 37,339

Entropic Communications, Inc.
6290 Sequence Drive
San Diego, California 92121
patentteam@entropic.com
Telephone: (619) 980-2612
Facsimile: (858) 546-2411